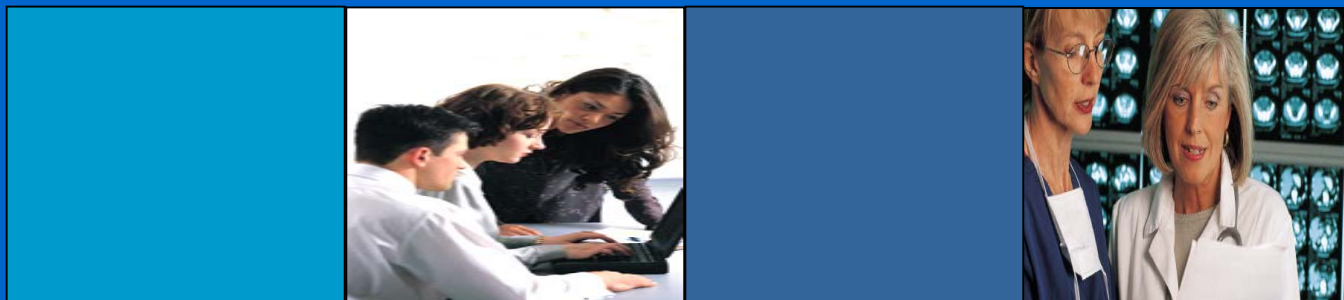


Clinical Trials Management Application (CTMA)

“An Interactive Solution for Paper-based Treatment Schedules for Oncology Clinical Trials”





Overview



Clinical Trials Management Application (CTMA)



- Research-based application to provide an integrated tool for managing administrative (e.g., IRB approvals) and clinical (e.g., tumor measurements) functions for the collection and analysis of data generated from a clinical trial



- Web-based applet written in Java, in production since 2000



- Standardized reporting and hardware infrastructures in place



Clinical Trials Management Application (CTMA)



- Supports 135 diverse users including:
 - Nurse Coordinators
 - Data Managers
 - Clinical Trial Specialists
 - Clinicians
 - Administrators
 - Researchers
 - Pharmaceutical representatives



- Contains 216 active protocols representing in-house and pharmaceutical-sponsored trials
- Contains clinical data for approximately
- 15,620 patients

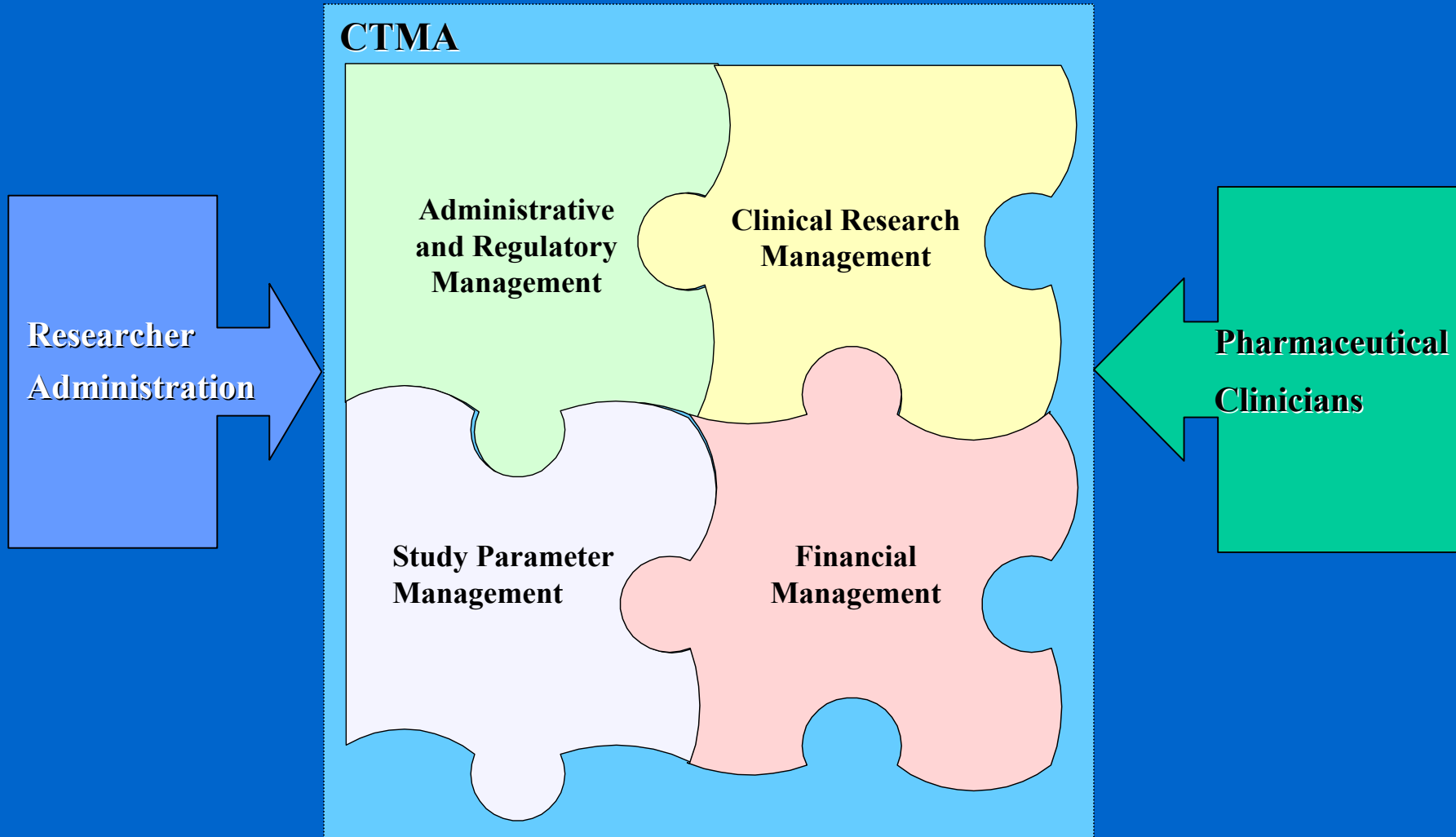


CTMA Component Overview



Clinical Trials Management Application (CTMA)

Each component fits together to work with a diverse team ...





Administration and Regulatory

What's In the Box?

Administrative
and Regulatory
Management

Administrative and
Regulatory
Management

Abstract Summary

Participants Designation

Event Monitoring

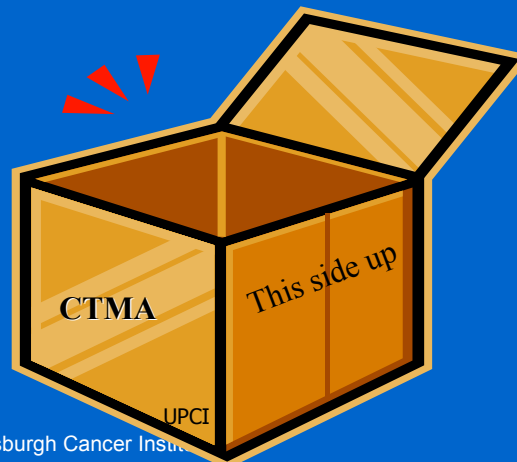
Document Management

Email/Digital Signature

Disease/Anatomic
Classifications

Advance Searching

Plus more...





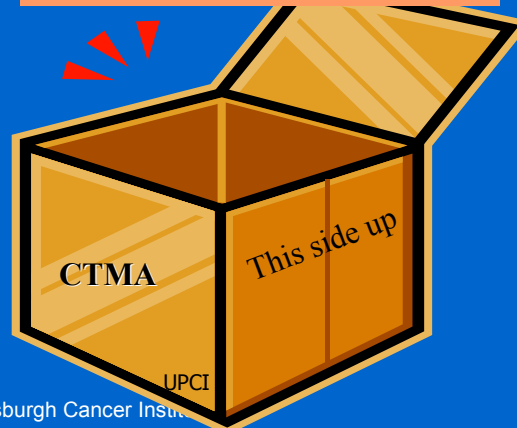
Clinical Research Management

What's In the Box?

**Clinical
Research
Management**

**Clinical
Research
Management**

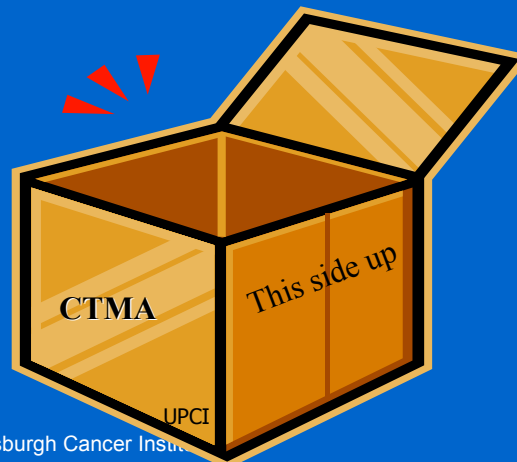
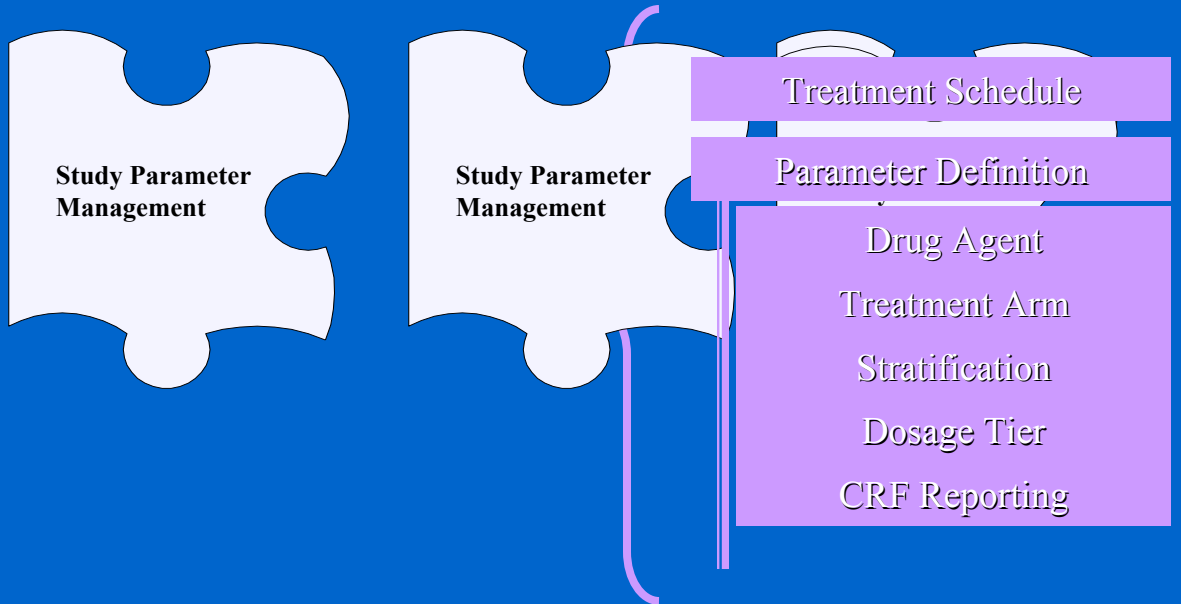
Patient Registration/Screening
Adverse Event Monitoring
Patient Status
Patient Treatment Calendar
Drug Administration
Extent of Disease
Clinical Response
Tumor Markers
Lab Results
Physical & Vitals
Plus more...





Study Parameter Management

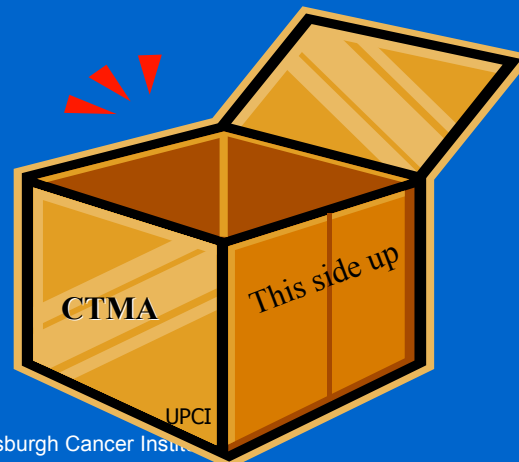
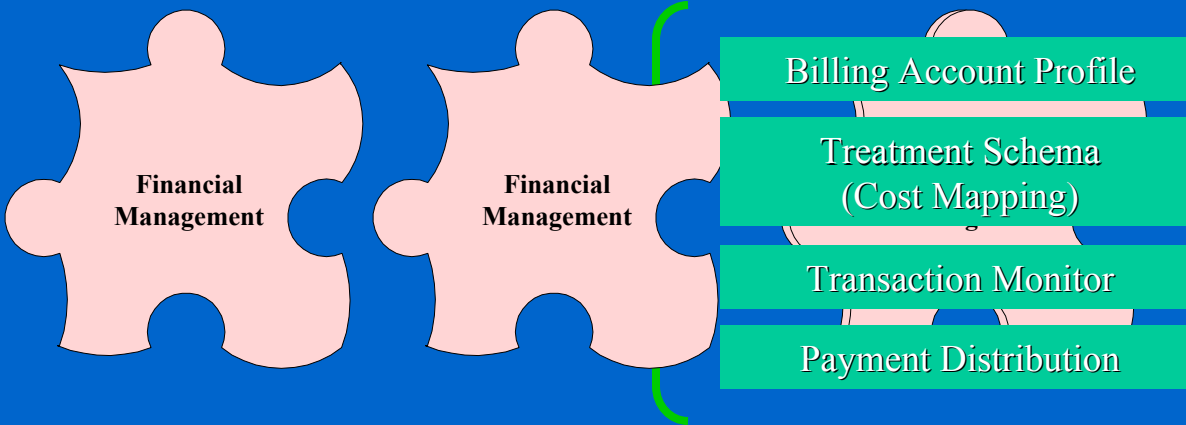
What's In the Box?





Financial Management

What's In the Box?





Component Summary

Administrative Management

- Abstract Summary
- Participants Designation
- Event Monitoring
- Document Management
- Email/Digital Signature
- Disease/Anatomic Classifications
- Advance Searching
- Plus more...

Study Parameters

- Treatment Schedule
- Parameter Definition
 - Drug Agent
 - Treatment Arm
 - Stratification
 - Dosage Tier
 - CRF Reporting

- Patient Registration/Screening
- Adverse Event Monitoring
- Patient Status
- Patient Treatment Calendar
- Drug Administration
- Extent of Disease
- Clinical Response
- Tumor Markers
- Lab Results
- Physical & Vitals
- Plus more...

Clinical Research Management

- Billing Account Profile
- Treatment Schema (Cost Mapping)
- Transaction Monitor
- Payment Distribution

Financial Management



Informatics Challenge for CTMA

“Paper-based treatment schedules for Oncology Clinical Trials”



Challenge - Paper-based Treatment Schedules

Traditionally investigators have developed clinical trial schemas in a paper-based format



APPENDIX A
Schedule of Assessments

		Treatment Cycle ^a										Day 21 of Cycle 8 or Early Termination	FU ^b Q6 Wks x
		Baseline Day – 14 To Day 0	1	2	3	4	5	6	7	8			
Informed Consent		X											
Eligibility		X											
History		X											
Biopsy for p53 Status and Histology Confirmation		X											
Chest X-ray		X			X	X	X		X		X	X	
ECG ^c		X											
Physical Exam		X		X	X	X	X	X	X	X	X	X	
Weight & BSA		X	X	X	X	X	X	X	X	X	X	X	
Vital Signs		X	X	X	X	X	X	X	X	X	X	X	
Karnofsky Performance Status		X	X	X	X	X	X	X	X	X	X	X	
CT Scan HN ^d		X			X	X	X		X		X	X	
Patient Data	FACT-H&N		X		X	X	X		X		X	X	
	PSS-H&N		X		X	X	X		X		X	X	
	Pain Intensity Assessment		X		X	X	X		X		X	X	
	Dispense/Collect Diary Card	X	X	X	X	X	X	X	X	X	X		
Laboratory	β-hCG ^e	X											
	Hematology	X		X	X	X	X	X	X	X	X		
	Chemistry	X		X	X	X	X	X	X	X	X	X	
	Coagulation	X		X	X	X	X	X	X	X	X		
	Calculated Creatinine Clearance & ANC	X		X	X	X	X	X	X	X	X		
	Neutralizing Antibodies ^f	X			X						X		
Concurrent Medications ^g		X	-----X ^h									X ^h	
Adverse Events			-----X									X	
Administer Study Treatment			-----X									X	
Injection Site Pain Assessment			-----X									X	
Survival			-----X ⁱ									X ⁱ	

^a Each treatment cycle is 21 days in duration. Day 1 of each treatment cycle-all efficacy and safety evaluations should be performed prior to first dose of study medication.

^b Follow-up phase begins after a patient has discontinued dosing and completed a Termination Visit. Follow-up visits must be performed until the patient demonstrates local-regional progressive disease at which point they will be followed Q3 months for survival only.

^c An ECG within 3 months of screening is acceptable.

^d When lesion is not measurable on CT, MRI is acceptable but must be used throughout the study.

^e For female patients only.



Challenge - Paper-based Treatment Schedules

Question: How to deal with the complexity and diversity of clinical trial Treatment Schedules?



APPENDIX A
Schedule of Assessments

		Treatment Cycle ^a										Day 21 of Cycle 8 or Early Termination	FU ^b Q6 Wks x2
		Baseline Day -14 To	1	2	3	4	5	6	7	8			
Informed Consent													
Eligibility		X											
History		X											
Biopsy for p53 Status and Histology													
Chest X-ray					X	X				X		X	X
ECG ^c													
Physical Exam					X	X	X		X	X		X	X
Weight & BSA					X	X	X		X	X		X	X
Vital Signs		X		X	X	X	X		X	X		X	X
Karnofsky Performance Status		X		X	X	X	X		X	X		X	X
CT Scan HN ^d		X		X	X	X	X		X	X		X	X
Patient Data	FACT-H&N				X	X			X			X	X
	PSS-H&N				X	X			X			X	X
	Pain Intensity Assessment				X	X			X			X	X
	Dispense/Collect Blood	X		X	X			X	X	X		X	
Laboratory	β-hCG ^e	X											
	Hematology					X	X	X	X	X		X	
	Chemistry					X	X	X	X	X		X	X
	Coagulation					X	X	X	X	X		X	
	Calculated Creatinine Clearance & ANC	X		X	X	X	X	X	X	X		X	
Neutralizing Antibodies ^f		X			X							X	
Concurrent Medications ^g		X											X ^h
Adverse Events				X								X	
Administer Study Treatment				X								X	
Injection Site Pain Assessment				X								X	
Survival				X									X ⁱ

^a Each treatment cycle is 21 days in duration. Day 1 of each treatment cycle-all efficacy and safety evaluations should be performed prior to first dose of study medication.

^b Follow-up phase begins after a patient has discontinued dosing and completed a Termination Visit. Follow-up visits must be performed until the patient demonstrates local-regional progressive disease at which point they will be followed Q3 months for survival only.

^c An ECG within 3 months of screening is acceptable.

^d When lesion is not measurable on CT, MRI is acceptable but must be used throughout the study.

^e For female patients only.



Challenge - Paper-based Treatment Schedules

Design Goals: An interactive scheduling tool must be:



Flexible

- Handling various flavors of trial schedules
- Allows extensibility to couple/decouple to other data within the clinical trial data set



Intuitive

- Familiar “look and feel” context (I.e., paper-based chart)
- Provides a simple user interface for constructing/viewing schedules on-line



Challenge - Paper-based Treatment Schedules

A quick dissection of the paper-based Treatment Schedule

APPENDIX A
Schedule of Assessments

		Treatment Cycle ^a										Day 21 of Cycle 8 or Early Termination	FU ^b Q6 Wks x2
		Baseline Day -14 To Day 0	1	2	3	4	5	6	7	8			
Informed Consent		X											
Eligibility		X											
History		X											
Biopsy for p53 Status and Histology Confirmation		X											
Chest X-ray		X			X	X	X		X			X	X
ECG ^c		X											
Physical Exam		X		X	X	X	X	X	X	X		X	X
Weight & BSA		X	X	X	X	X	X	X	X	X		X	X
Vital Signs		X	X	X	X	X	X	X	X	X		X	X
Karnofsky Performance Status		X	X	X	X	X	X	X	X	X		X	X
CT Scan HN ^d		X			X	X	X		X			X	X
Patient Data	FACT-H&N		X		X	X	X		X			X	X
	PSS-H&N		X		X	X	X		X			X	X
	Pain Intensity Assessment		X		X	X	X		X			X	X
	Dispense/Collect Diary Card	X	X	X	X	X	X	X	X	X		X	
Laboratory	β-hCG ^e	X											
	Hematology	X		X	X	X	X	X	X	X		X	
	Chemistry	X		X	X	X	X	X	X	X		X	X
	Coagulation	X		X	X	X	X	X	X	X		X	
	Calculated Creatinine Clearance & ANC	X		X	X	X	X	X	X	X		X	
	Neutralizing Antibodies ^f	X			X							X	
Concurrent Medications ^g		X	-----X ^g -----X ^h										
Adverse Events			X-----X										
Administer Study 1 treatment			X-----X										
Injection Site Pain Assessment			X-----X										
Survival			X-----X ⁱ										

^a Each treatment cycle is 21 days in duration. Day 1 of each treatment cycle-all efficacy and safety evaluations should be performed prior to first dose of study medication.

^b Follow-up phase begins after a patient has discontinued dosing and completed a Termination Visit. Follow-up visits must be performed until the patient demonstrates local-regional progressive disease at which point they will be followed Q3 months for survival only.

^c An ECG within 3 months of screening is acceptable.

^d When lesion is not measurable on CT, MRI is acceptable but must be used throughout the study.

^e For female patients only.



Reveals three basic parts...

Informed Consent	
Eligibility	
History	
Biopsy for p53 Status and Histology Confirmation	
Chest X-ray	
EKG	
Physical Exam	
Weight & HSA	
Vital Signs	
Karnofsky Performance Status	
CT Scan HN ^a	
Patient Data	FACT-H&N PSS-H&N Pain Intensity Assessment Dispense/Collect Diary Card
Laboratory	B-IgG ^b Hematology Chemistry Coagulation Calculated Creatinine Clearance & ANI Neutralizing Antibodies ^c
Concurrent Medications ^d	
Adverse Events	
Administer Study Treatment	
Injection Site Pain Assessment	
Survival	

Temporal Periods

(e.g. cycles, weeks, etc)

(X marks the spot)

[illegible]



Treatment Events

Temporal Periods

Treatment Cycle ^a										
Baseline Day -14 To Day 0	1	2	3	4	5	6	7	8	Day 21 of Cycle 8 or Early Termination	FU ^b (Q6 Wks x2)

Intersection Points

(X marks the spot)





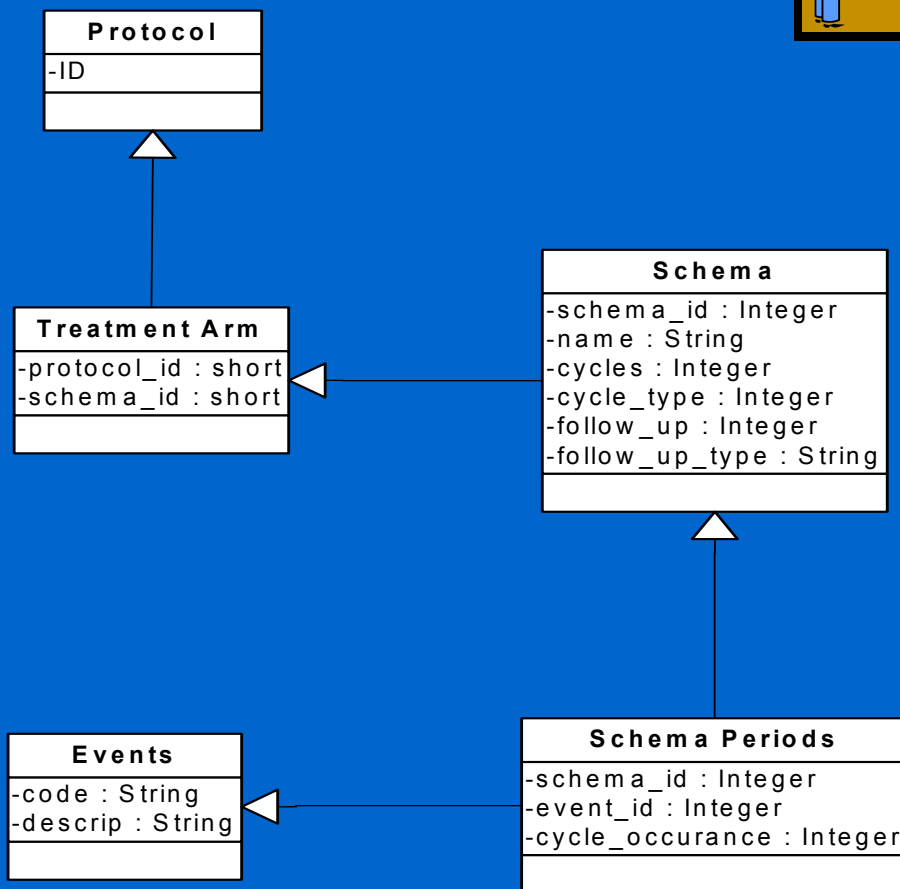
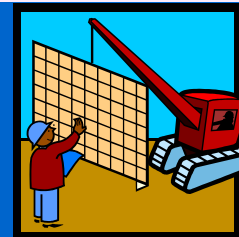
Treatment Schedule
Select a Treatment Arm: STUDY DRUG
Cycle
Day
Informed Consent
History/Demographics
Physical Exam
Vital Signs
Height & Weight
Performance Status
Questionnaire
CBC, Diff, PLT
Chemistry Panel
CXR
CT Scan
Dispense study drug
Selenium
Blood DNA links to CA
Sputum
Research Nurse Time





Computer-based Treatment Schedules

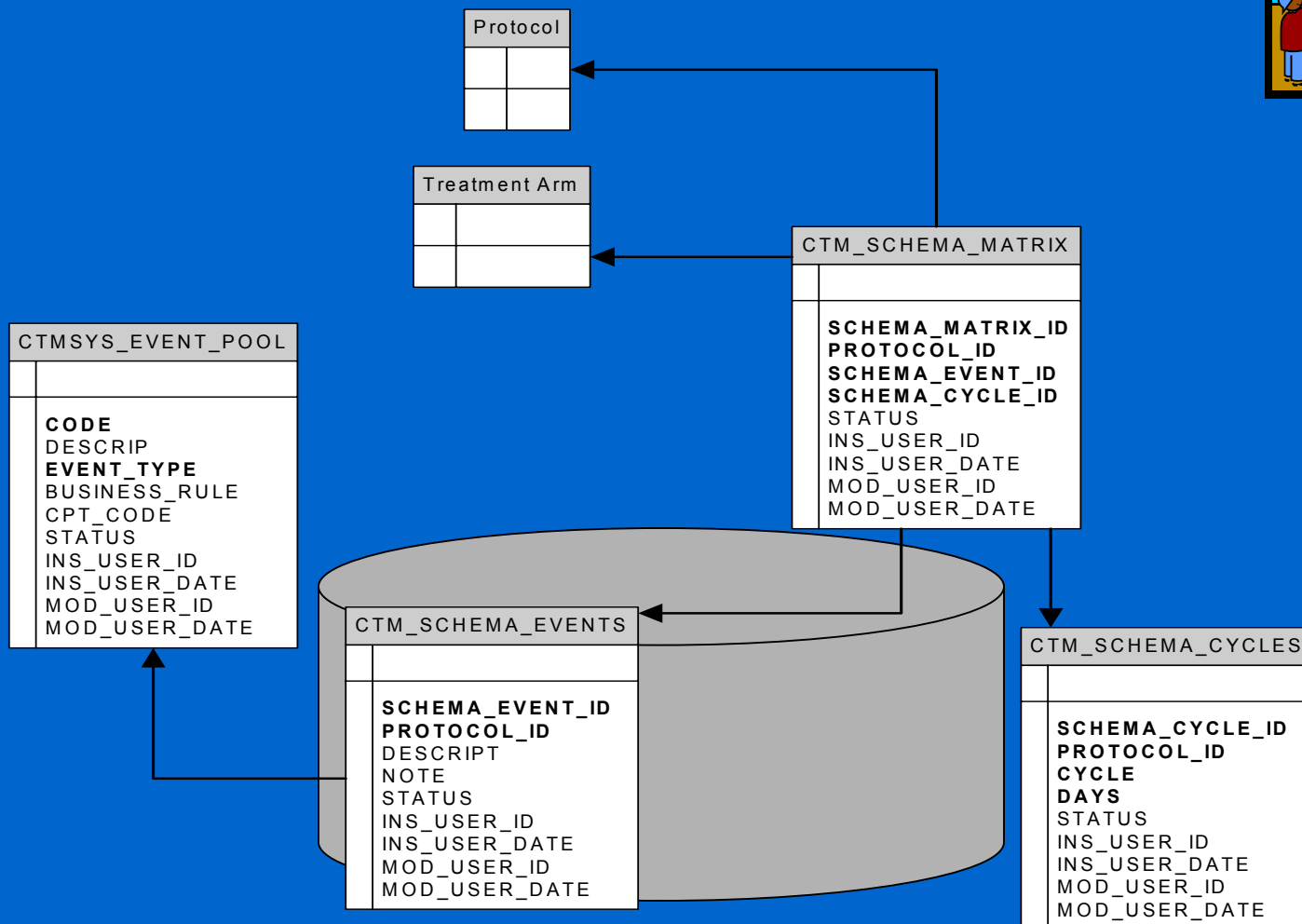
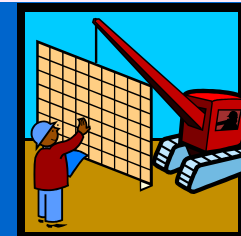
Begins with analysis and construction of an object model...





Computer-based Treatment Schedules

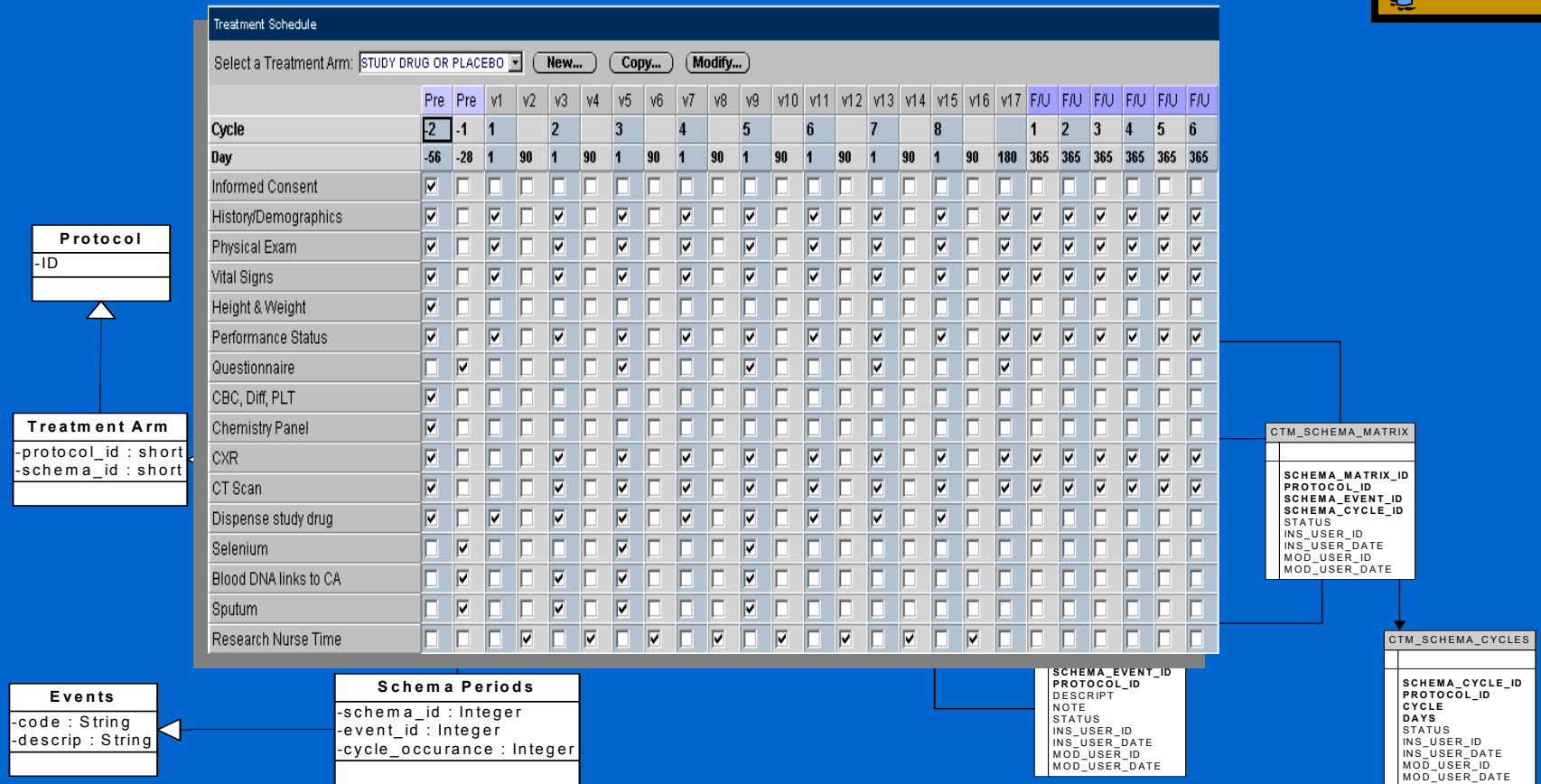
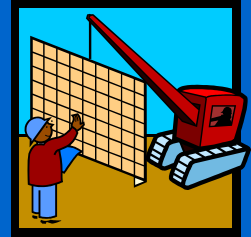
Then, to the construction of physical database tables ...





Computer-based Treatment Schedules

to putting it all together with an intuitive user interface.



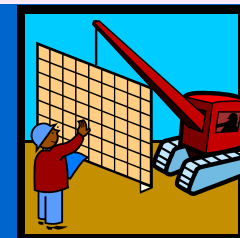


Treatment Schedule

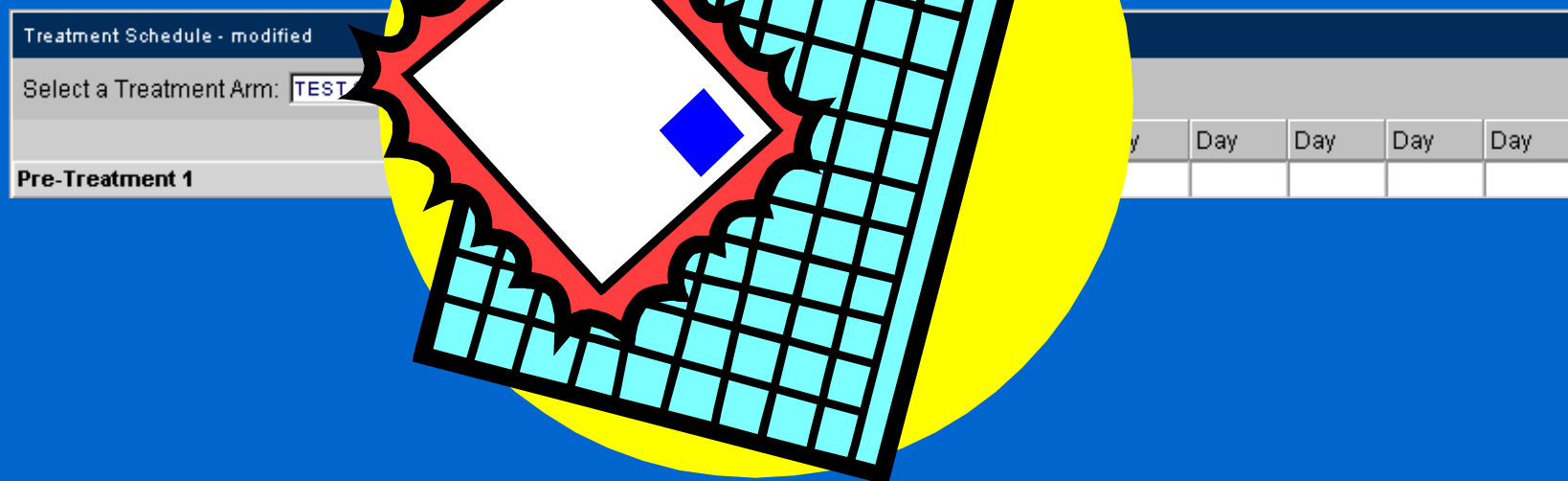
“The Interactive Session”



Treatment Schedules



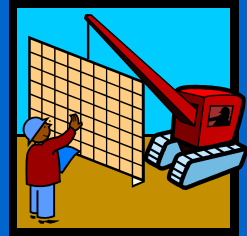
The interactive session starts with the Layout Editor...





Treatment Schedules

Coordinators/Investigators construct treatment schemas in the Layout Editor by choosing pre-defined temporal periods from the toolbar, and defining the day occurrences within those periods...



Temporal Periods

Day Occurrences

Treatment Schedule - modified											
Select a Treatment Arm: TEST 2		New...	Copy...	Modify...							
	Total Days/Period	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day
Pre-Treatment 1	7	7									
Cycle/Week 1	21	7	14	21							
Cycle/Week 2	14	1	7	14							
Follow-Up 1	365	180	365								

The schedule can then be created ...

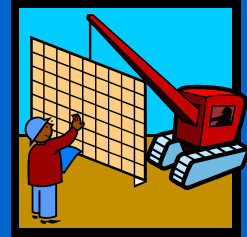


Toolbar





Treatment Schedule



The computer generates a treatment schedule template representing the temporal periods in a linear format...

*Pre-Treatment
(Pre)*

Visits, Cycles or Weeks

*Follow-up
(F/U)*

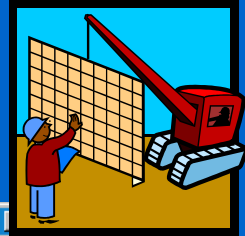
Treatment Schedule														
Select a Treatment Arm: TREATMENT ARM TEST														
	Pre	v1	v2	v3	v4	v5	v6	v7	v8	v9	F/U	F/U	F/U	F/U
Cycle	-1	1			2			3			365	365	365	365
Days	-7	1	7	14	1	7	14	1	7	14	90	90	90	90
<Add Events>														

Temporal Periods



Treatment Schedules

Then, the user selects the treatment events or procedures they wish to apply to the schedule template...



Treatment Event Search

Search for event:

- Annotation
- BSA
- Baseline CRF
- Bone Scan
- CBC
- CRF
- CT
- CXR
- Cancelled Treatment
- Clinic Visit
- Completed Treatment
- Con Meds
- Consent Withdrawal
- Contract Signed
- Dental Evaluation
- Diff
- Drug Administration

Selected Event(s)

>> << Clear Save

Treatment Schedule

Select a Treatment Arm: **TEST 2** **New...**

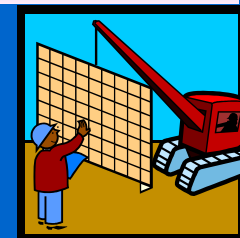
	Pre	v1	v7	v8	v9	F/U	F/U	F/U	F/U
Cycle/Week/Visit	-1	1							
Day	-7	7	3						
BSA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
CXR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
ECG/Urinalysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
MRI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

+ Add Event **e Edit/View Event** **x Delete Schema** **Print**



Treatment Schedule

- ✓ By checking the appropriate event/period pairing, intersection points are added to complete the grid
- ✓ A completed treatment schedule.



Pre-Treatment (Pre) *Visits, Cycles, or Days* *Follow-up (F/U)*

Treatment Schedule - modified

Select a Treatment Arm: TEST 2 New... Copy... Modify...

	Pre	v1	v2	v3	v4	v5	v6	F/U	F/U
Cycle/Week/Visit	-1	1			2			1	
Day	-7	7	14	21	1	7	14	180	365
BSA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CXR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ECG/Urinalysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MRI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

}

Grid



Benefits/Usages

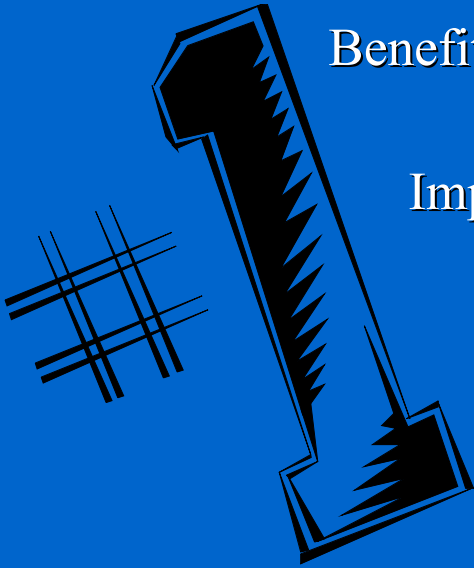
“Limitless possibilities”



Treatment Schedules

Benefit of interactive treatment schedules...

Improvements to Clinical Trials monitoring for patient care...





Treatment Schedules

Interactive schedules integrated with other functionality add value...

Patient Treatment Calendar

Calendar for Patient Study 1

New Events View Print

June 2003

Sun	Mon	Tues	Wed	Thu	Fri	Sat
1	2 Started Treatment Registration	3 CBC CT	4	5	6	7
8	9 ECG/Urinalysis Efficacy Assessment CBC CAT Efficacy Assessment	10	11	12	13	14
15	16 ECG/Urinalysis CBC CAT Efficacy Assessment CT	17	18	19	20	21
22	23 ECG/Urinalysis CBC CAT Efficacy Assessment CT	24	25	26	27	28
29	30 CBC	1	2	3	4	5
6	7	8	9	10	11	12

New... Copy... Modify...

Complete Patient Treatment Activity

Patient Status Events for PUBLIC, STANLEY

Show Event Types: View Calendar

Date	Event	Reason	Comment
2003-06-02	Started Treatment	-	
2003-06-02	Registration	-	
2003-06-03	CBC	N/A	Patient completed scheduled treatment
2003-06-09	ECG/Urinalysis	n/a	Patient completed scheduled treatment

Add Edit Delete Info/CTB Print

Adverse Events

Adverse Events Entry Form

Save Cancel Print

Adverse Event

Onset Date: 03-06-2003

Drug Related: Definitely

Drug Agent: Mylotarg

Grade: 1 - Mild

Occurrence: Single Occurrence

Outcome: Resolved

Resolution Date: 06-11-2003

DLT: ☐

Toxicity

Toxicity Category: ALLERGY/IMMUNOLOGY

Toxicity: Allergic reaction/hypersensitivity (including drug fever)

Comments: adverse events

Drug Administration

Drug Administration Entry Form

Save Cancel Print

Time Factors

Cycle Number: 1

Course Number: 1

Start Date: 09-02-2003 01:37

Stop Date: 09-02-2003 01:37

Week Number: 1

Day: 5

Dosage

Drug Agent: Mylotarg

Ordered Dose: 1.5

Factor: 1.5

Individual Dose: 1.5

Total Dose: 1.6

Route:

Pills Distributed:

Ordered Units: Mg

Individual Units: Milligrams

Total Units: Milligrams

Site:

Pills Recd:

Comments

Comment:



Treatment Schedules

In many other areas as well ...

Financial - Costs Mapping per Treatments

Treatment Schedule - modified

Select a Treatment Arm: **TEST 1**

	Pre	v1	v2	v3	v4	v5	v6	v7	v8	Totals
Cycle/Week/Visit	-1	1				2				
Day	-7	1	5	6	14	1	2	3	5	
CBC	75.0	75.0	75.0			75.0		75.0		375.0
CXR		75.0	75.0	75.0	75.0		75.0			375.0
Con Meds	20.0					40.0	<input checked="" type="checkbox"/>	1230.23		1290.23
Follow-Up Visit										0.0
Medical History	90.0									90.0
Patient Accrual (Single)										0.0
Patient Accrual Milestone										0.0
Patient Accrual Milestone										0.0
Rest Week				<input checked="" type="checkbox"/>						0.0
Tumor Evaluation	200.0	200.0				200.0				600.0
Vitals Signs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.0	0.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2000.0	99999.0	102000.5
Totals	385.0	350.0	150.0	76.0	75.5	315.0	75.0	3305.23	99999.0	104730.73

	v1	v2	v3	v4	v5	v6	v7	v8
Dispense study drug	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Selenium	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Blood DNA links to CA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sputum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Research Nurse Time	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Patient Scheduling Systems

Untitled - Microsoft Internet Explorer

Address: https://intranet.upmc.edu/scheduling/appt_sched_day.cfm?descip=Return%20Visit&pt=87561&phys_name=999000&date=1

Applications : Support : Downloads : Telephone Directory : Links : Report Module

UPMC Cancer Centers Application Center

Hillman Outpatient Scheduling

Schedule a Physician's Appointment For:

Last Name: First Name:

SSN: DOB:

Physician: Visit Date:

Time	Last Name	First Name	SSN	Birth Date	Status	Comments
<input type="radio"/> 08:00am	OPEN	TIME	SLOT			<input type="text"/>
<input type="radio"/> 08:30am	OPEN	TIME	SLOT			<input type="text"/>
<input type="radio"/> 09:00am	OPEN	TIME	SLOT			<input type="text"/>
<input type="radio"/> 09:30am	OPEN	TIME	SLOT			<input type="text"/>
<input type="radio"/> 10:00am	OPEN	TIME	SLOT			<input type="text"/>



Future View

“Imagine the possibilities”

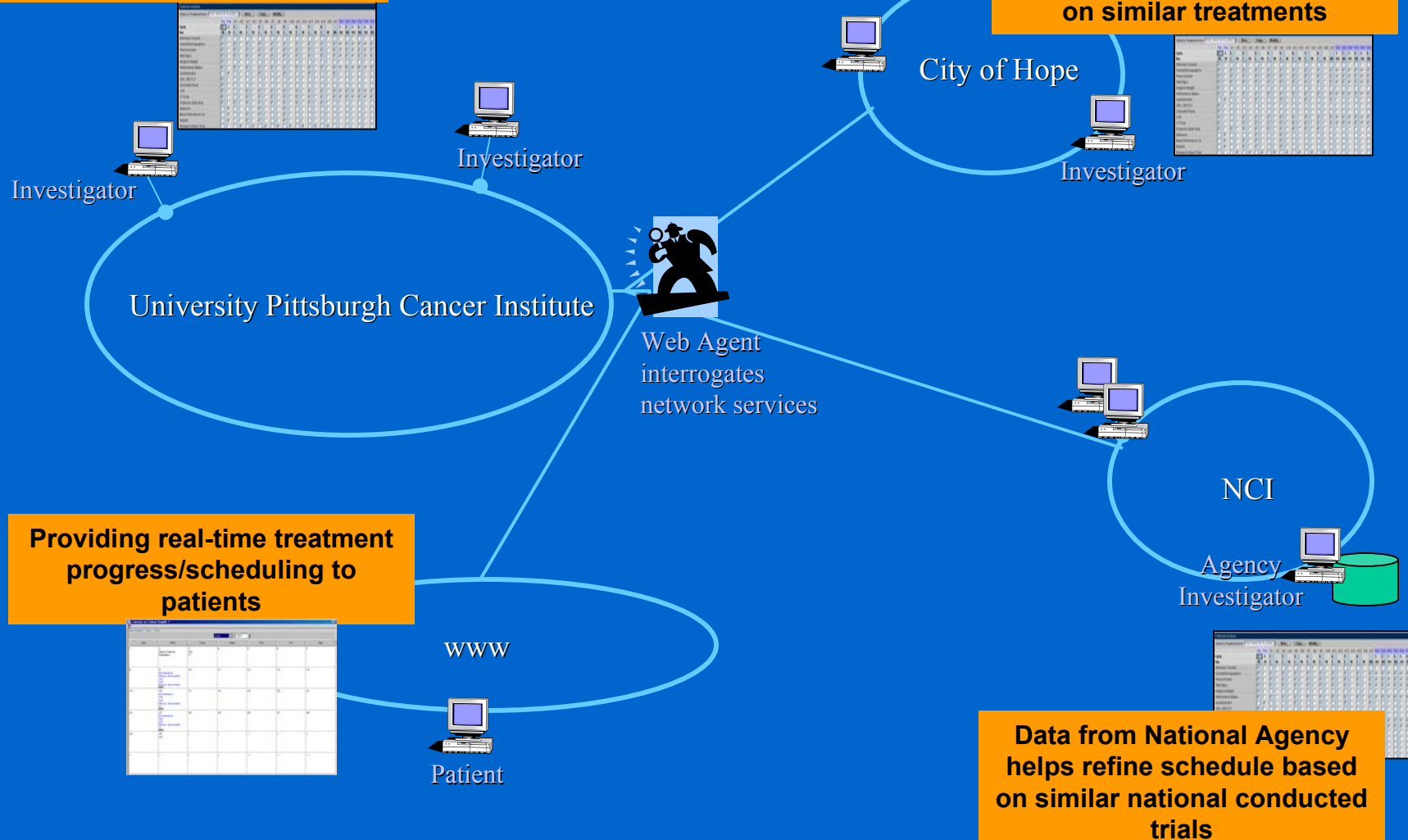


Future Vision – Interactive Collaborative Networks

Collaborative networks tied to the interactive schedule which can leverage the experience of other researchers to correlate similar data, and provide feedback into construction of the treatment schedules

PI develops in collaboration with other Investigators/Centers

Data from other Centers helps refine schedule based on similar treatments





CTMA Technology



Development Facts

Team Size

2 Developers + 1 DBA

■ Java 2 (JDK 1.3)	100%
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■ Applet (Swing)

■ RMI / SSL

■ Reflection

■ JDBC

■ Oracle	v9i
----------	-----

■ Cold Fusion

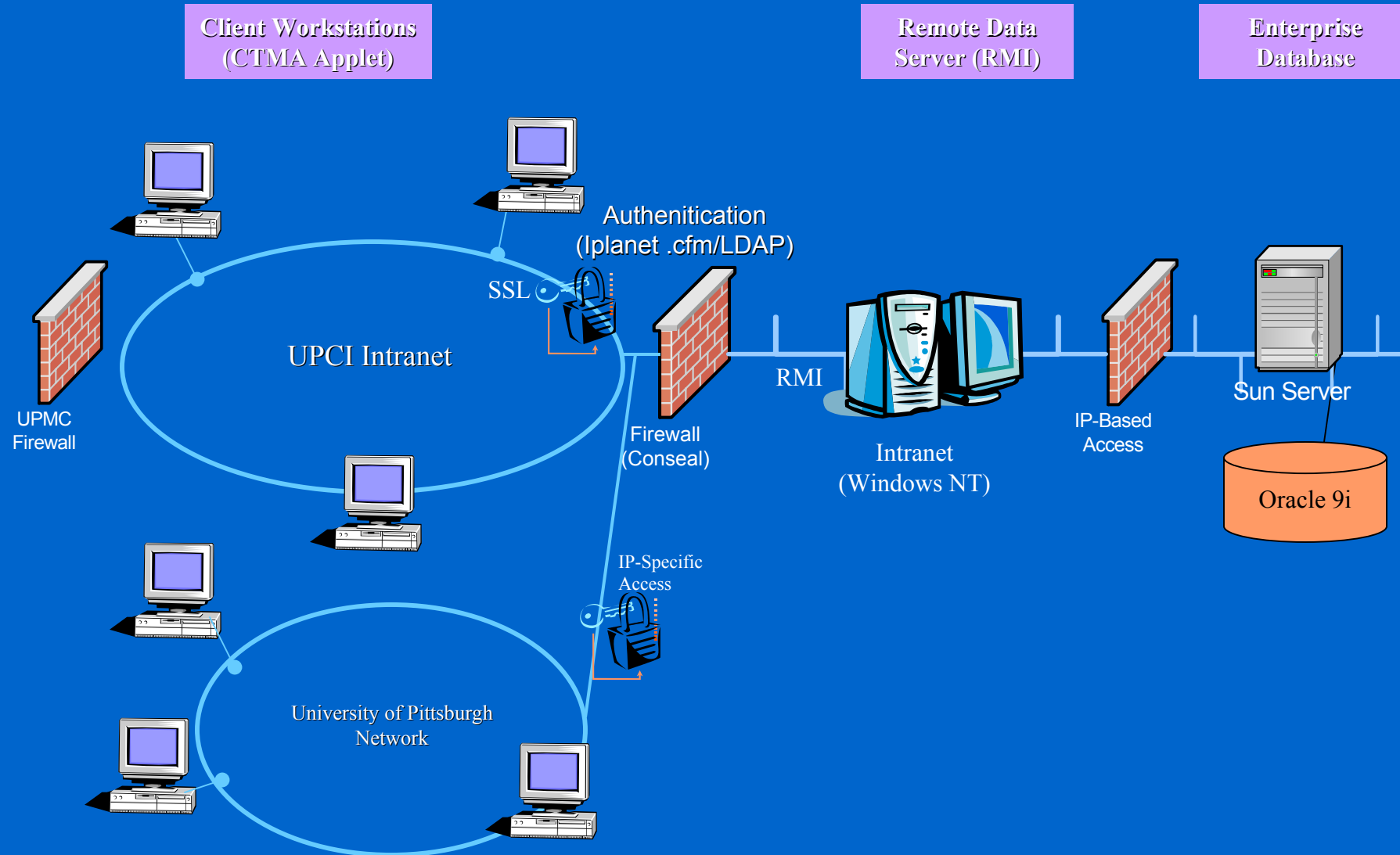
■ Perl / Active Perl	Generates > 50% of Java Code
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■ Crystal Enterprise Reporting

■ JBuilder IDE



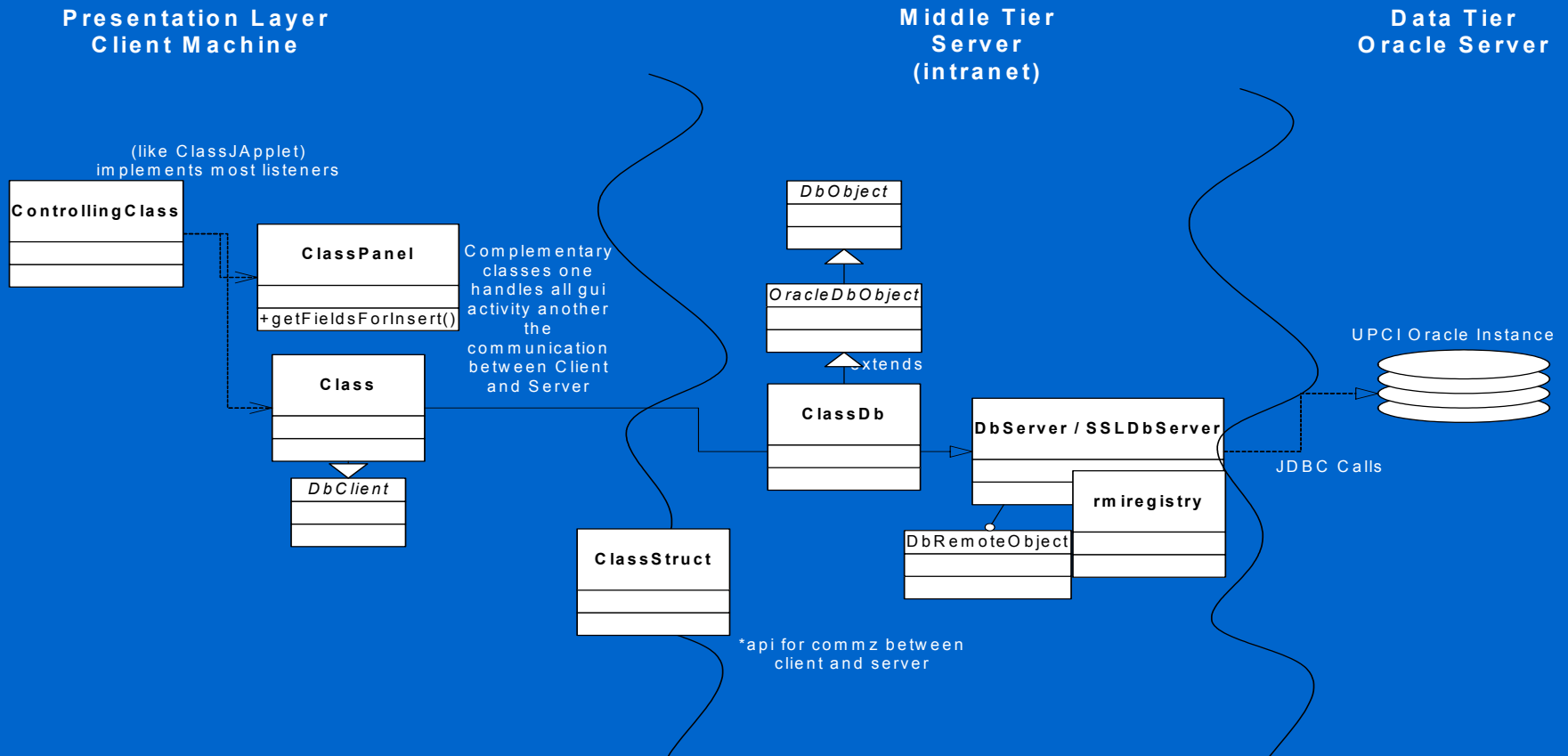
Three-Tiered Architecture – Physical View





Three-Tiered Architecture – Logical Object View

Java Classes



J:\OIP\docs\GeneralDesign\Architecture and Security\
OIPArchitecture.vsd



Security



Secured Levels

Application

Database

Network

Clinical Trials Management Application Security

Menu Context (based on Roles)

Roles

Tables/Views/Functions

iPlanet Authentication

https

SSL (SSLava)



Enterprise Reporting



Enterprise Reporting

Crystal Enterprise Server

ePortfolio - Microsoft Internet Explorer provided by UPMC Health Systems

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss

Address <https://intranet.upmc.edu/crystal/enterprise/ePortfolio/en/available.csp>

ePortfolio Account: rubinr

Look for: [] title Search

1UPMC-OP1-CRY01.ACCT.UPMCHS.NET@1UPMC-OP1-CRY01.ACCT.UPMCHS.NET : CTMS Reports : IRB MAIN MENU

activeX test | bob testa | CTMS Reports | Miscellaneous Reports | OCS Reports | Report Samples | User Folders

Folders Type: [All] Sort By: [Title]

No folders.

Accrual by Referring Physician
[View](#) | [View Latest Instance](#) | [Schedule](#) | [History](#)
6/10/2003 11:37:41 AM - rubinr - Instances: 1

Accrual by Tx Physician
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

Accrual Verification report
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

closed protocol report
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

GCRC Protocol Accrual
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

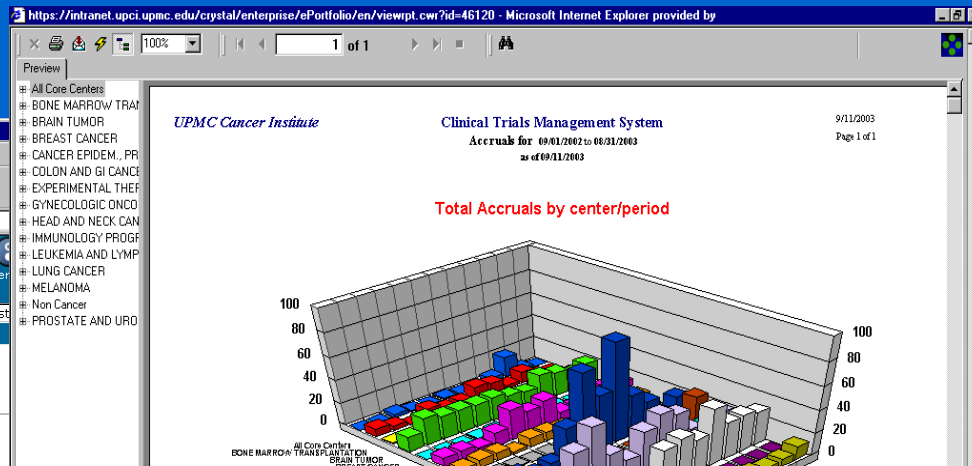
IRB Master Report
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

master onstudy pat accrual/renewal events
[View](#) | [Schedule](#) | [History](#)
rubinr - Instances: 0

Master Protocol Report

javascript:SelfPreview/ars(3587,'CrystalEnterpriseReport','Accrual by Referring Physician','1,30015').handl

Start Oracle Fields Crystal Explorer Table Table Inbox





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- Enterprise Reporting